BACKLIGHTING SOLUTIONS

LED EDGELIT LIGHT PANELS // LUMISHEET
LumiSheet™ is ideally suited for flat surfaces of nearly any scale and shape where space is limited and a low profile solution is needed. Such applications include displays, ceilings, feature walls, counter and bar tops, elevators, floors among many others. LumiSheet integrates high brightness LEDs and heat sinks into its exclusive 3D V-cut surface, making it possible to produce “frameless” panels per your specifications.

Any of the following could indicate LumiSheet as a solution:

- Flat surfaces of virtually any size and shape up to 59”x 118” (multiple panels are used when needed)
- Dry location use
- Final dimensions are known and not subject to change
- Either single-sided or double-sided illumination needed
- A zero or near zero clearance solution is needed

As with any evolving technology, education is critical. Our staff is here to assist you in understanding LumiSheet capabilities as well as guiding you through the many facets involved with this highly customizable light source. With the support of our integration specialists, you can dream with lucidity and design with certainty.

Contact Evo-Lite to find the optimal solution for your illumination project needs.

TABLE OF CONTENTS

03 PRODUCT OVERVIEW INTRODUCTION
04 LUMISHEET™ SPECIFICATIONS
05 TYPICAL SURFACE BRIGHTNESS
06 ILLUMINATION OPTIONS
07 TYPICAL POWER EXITS
08 WIRE LOCATION REFERENCE MAP
09 INSTALLATION TIPS & MOUNTING EXAMPLES
10 PACKING & CRATING INFORMATION
12 PRODUCT HANDLING, INSTALLATION & INTEGRATION ADVISORY
LumiSheet™ is designed to emit a bright, even output of light across the entire surface of the panel. Unlike traditional light panels, which have the light source mounted on the exterior of the Light Guide Plate (LGP), LumiSheet™ integrates high brightness LEDs and the heat sink into our exclusive 3D V-cut LGP which makes it possible to produce “frameless”, rectangular or special shaped LED light panels for various application needs.

Choose between multiple color temperatures, Tunable White, and RGB LEDs to fit the needs of your application.

**CUSTOMIZABLE**
- Any size or shape up to 59” x 118” (1.5m x 3m)
- Can be used in “frameless” designs
- Multiple color temperatures, Tunable White, & RGB options available

**BRIGHT & EVEN ILLUMINATION**
- 3D V-Cutting technology
- High brightness (2,000 - 10,000 LUX)
- Superior consistent light quality

**LONG LIFESPAN**
- Patented heat sink technology to maximize LED lifespan (70,000 hours)

**ENERGY EFFICIENT**
- Low power consumption
  (70% less than fluorescent)
- Energy saving and maintenance free

**WARRANTY**
- Advanced 3-year warranty

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**PERFECT BACKLIGHTING SOLUTION**

LumiSheet™ utilizes crystal clear acrylic combined with a patented 3D V-groove etched grid pattern that provides even illumination to almost any shape imaginable.

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**Integrated High Quality LEDs**
LumiSheet™ integrates high quality 12V, constant voltage LEDs into the perimeter of the LumiSheet™ panel without the use of rigid frame materials. This process allows the LEDs to conform to almost any shape.

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**3D V-Groove Light Guide Plate (LGP)**
LumiSheet™ utilizes crystal clear acrylic combined with a patented 3D V-groove etched grid pattern that provides even illumination to almost any shape imaginable.

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**Integrated Thermal Management**
All LEDs create heat which is detrimental to their life span. LumiSheet™ implements a patented technology which integrates the heat sink into the LGP that is easily conformable, allowing for customizable shapes.
**PROFILE OF LUMISHEET™**

Flexible LED Circuit  LED Diode  Optically Clear Acrylic Panel

8MM  LumiSheet Side View  V-Grooves

Zig-Zag Tensioner  Integrated Heat Sink  Reflective Backing

**FRONT VIEW**

Maximum length 118” (3,000 mm)

Depth 5/16” (8 mm)

**SPECIFICATIONS**

**ATTENTION! PLEASE REVIEW THE PRODUCT HANDLING, INSTALLATION & INTEGRATION ADVISORY ON PAGE 8**

<table>
<thead>
<tr>
<th>ELECTRICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input Voltage</strong></td>
</tr>
<tr>
<td><strong>Power Consumption</strong></td>
</tr>
<tr>
<td><strong>Wire Size</strong></td>
</tr>
<tr>
<td><strong>Wiring</strong></td>
</tr>
<tr>
<td><strong>Wire Length</strong></td>
</tr>
<tr>
<td><strong>Connector</strong></td>
</tr>
<tr>
<td><strong>Certifications</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHYSICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Color Temperature</strong></td>
</tr>
<tr>
<td><strong>High CRI</strong></td>
</tr>
<tr>
<td><strong>Mounting Examples</strong></td>
</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
</tr>
<tr>
<td><strong>Environment</strong></td>
</tr>
<tr>
<td><strong>Thickness</strong></td>
</tr>
<tr>
<td><strong>Minimum Size</strong></td>
</tr>
<tr>
<td><strong>Maximum Size</strong></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
</tr>
</tbody>
</table>

**POWER & CONTROLS**

Compatible with full range (100 - 0%), flicker-free power and control components. Please contact Evo-Lite for optimal solutions to fit your requirements.

* Tunable White CCT LED Control: Our Tunable White LEDs utilize separate warm and cool white channels for color mixing. 3rd party controls must account for proportional balancing/mixing of the two channels. Example: 2700K (Warm White) + 6500K (Ultra White) OFF, Balancing/Mixing of both = 2700K 50% ON & 6500K 50% ON, 6500K = 2700K OFF & 6500K 100% ON. Both channels cannot be allowed to operate at 100% simultaneously as the LED are not engineered to handle such high current.

** LED Kelvin temperatures listed in this literature have been derived from raw LED data. Actual Kelvin ratings can vary +/- 200K based upon environmental conditions including but not limited to inclusion into LGPs and the use of diffusion materials. A precise ANSI bin control system is utilized to help maintain LED conformity and to minimize variances.

† RGB + W is available upon request. Static red, green, and blue color options also available.
**TYPICAL SURFACE BRIGHTNESS**

*Brightness readings are for reference only. Actual reading may differ for different LEDs, LGPs or even different meters.*

**BRIGHTNESS & POWER CONSUMPTION REFERENCE - BASED ON 5300K LEDS**

<table>
<thead>
<tr>
<th>SIZE (INCH)</th>
<th>SIZE (MM)</th>
<th>LED STRIP</th>
<th>*AVERAGE SURFACE BRIGHTNESS (LUX)</th>
<th>POWER CONSUMPTION (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 x 6</td>
<td>150 x 150</td>
<td>1 side</td>
<td>6,000</td>
<td>2.0</td>
</tr>
<tr>
<td>12 x 12</td>
<td>300 x 300</td>
<td>1 side</td>
<td>3,000</td>
<td>4.0</td>
</tr>
<tr>
<td>24 x 24</td>
<td>600 x 600</td>
<td>2 sides</td>
<td>3,200</td>
<td>15.0</td>
</tr>
<tr>
<td>36 x 36</td>
<td>900 x 900</td>
<td>2 sides</td>
<td>2,600</td>
<td>23.0</td>
</tr>
<tr>
<td>48 x 48</td>
<td>1200 x 1200</td>
<td>2 sides</td>
<td>2,200</td>
<td>30.0</td>
</tr>
<tr>
<td>48 x 96</td>
<td>1200 x 2400</td>
<td>2 sides</td>
<td>2,200</td>
<td>60.0</td>
</tr>
<tr>
<td>Ø 6</td>
<td>Ø 150</td>
<td>all around</td>
<td>19,000</td>
<td>5.8</td>
</tr>
<tr>
<td>Ø 12</td>
<td>Ø 300</td>
<td>all around</td>
<td>13,000</td>
<td>11.2</td>
</tr>
<tr>
<td>Ø 24</td>
<td>Ø 600</td>
<td>all around</td>
<td>5,400</td>
<td>24.0</td>
</tr>
<tr>
<td>Ø 36</td>
<td>Ø 900</td>
<td>all around</td>
<td>4,500</td>
<td>36.0</td>
</tr>
<tr>
<td>Ø 48</td>
<td>Ø 1200</td>
<td>all around</td>
<td>3,500</td>
<td>48.0</td>
</tr>
</tbody>
</table>

*Brightness data was measured January 2015.*
ILLUMINATED FACE OPTIONS

<table>
<thead>
<tr>
<th>SINGLE FACE ILLUMINATION (STANDARD)</th>
<th>DOUBLE FACE ILLUMINATION (OPTION)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Illustration of LED light arrangement" /></td>
<td><img src="image2.png" alt="Illustration of LED light arrangement" /></td>
</tr>
<tr>
<td>Illuminated Front Face</td>
<td>Both Front and Back Face Illuminated (no reflective white backer)</td>
</tr>
<tr>
<td>Non-Illuminated Back Face (with reflective white backer)</td>
<td></td>
</tr>
</tbody>
</table>

LED LIGHT LOCATIONS

<table>
<thead>
<tr>
<th>LED LIGHT ALONG 1 EDGE</th>
<th>LED LIGHT ALONG 2 EDGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width LESS than 12&quot; (305mm)</td>
<td>Width GREATER than 12&quot; (305mm)</td>
</tr>
<tr>
<td>LEDs</td>
<td>LEDs</td>
</tr>
<tr>
<td>Max (L): 105&quot; (2680mm)</td>
<td>Max (L): 105&quot; (2680mm)</td>
</tr>
</tbody>
</table>

LED LIGHT ALONG ALL 4 EDGES

FOR SQUARE PANELS

For example: 36" x 36" or 48" x 48

**This is only recommended for when panels are “nearly” square. It is not recommended for long narrow panels.**
### TYPICAL POWER EXITS

NOTE: RGB and CCT LED types require power wires to exit the ends of the LED strips ONLY as shown in STANDARD 1 & OPTION 2 diagrams. Double edge illuminated light panels over 72" in length require power wires to exit opposing ends.

**POWER WIRE EXIT OPTION AVAILABILITY**

* AVAILABLE WITH SINGLE COLOR WHITES  
** RGB & CCT  
*** POWER WIRES MUST EXIT THE CORNERS OF THE LIGHT PANEL OR END OF LED STRIPS FOR RGB & CCT

<table>
<thead>
<tr>
<th>STANDARD 1</th>
<th>Power cord exits from the edge (default option for LumiSheet shorter than 6ft) [Available with single color whites, RGB &amp; CCT]</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Diagram" /></td>
<td>Minimum Bend Radius of cable is 3/16&quot; or 5mm. Minimum Bend Radius of cable is 3/16&quot; or 5mm.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STANDARD 2</th>
<th>Power cord exits from the middle of LED strip (default option for LumiSheet longer than 6ft) [Available with single color whites]</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image2" alt="Diagram" /></td>
<td>Minimum Bend Radius of cable is 3/16&quot; or 5mm.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPTION 1</th>
<th>Power cord exits from the back side of LumiSheet [Available with single color whites, RGB &amp; CCT]</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3" alt="Diagram" /></td>
<td>Minimum Bend Radius of cable is 3/32&quot; or 2.5mm</td>
</tr>
</tbody>
</table>

| OPTION 2 | Recessed (notched) power cord exits  
[Available with single color whites, RGB & CCT. Power wires must exit out the corners of the LED panel or end of LED strips for RGB & CCT] |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4" alt="Diagram" /></td>
<td>Minimum Bend Radius of cable is 3/32&quot; or 2.5mm</td>
</tr>
</tbody>
</table>

---
Click this link to access editable wire location map PDF to provide to your systems integration specialist.

NOTES:
## INSTALLATION TIPS

<table>
<thead>
<tr>
<th>SINGLE PANEL</th>
<th>MULTI-PANEL</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Diagram showing single panel installation" /></td>
<td><img src="image" alt="Diagram showing multi-panel installation" /></td>
</tr>
</tbody>
</table>

**EXAMPLE 1** *(DETAILED DIMENSIONS FROM CUSTOMER REQUIRED)*
- Screw mounting with pre-drilled holes

**EXAMPLE 2**
- Mounting with standoffs

**EXAMPLE 3**
- Mounting with Z-clips

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**SURFACE MOUNTING EXAMPLES** *(HARDWARE PROVIDED BY OTHERS)*

*Holes can be drilled at factory according to drawings supplied.

**WARNING**

*DO NOT USE ADHESIVES*

The use of adhesives of any type including double stick (VHB) tape for the bonding of materials to the light panel or bonding light panels to another surface is strongly discouraged. Direct bonding to the illuminated surface of the light panel can result in visual anomalies and bonding to the rear reflective layer for mounting purposes can cause failure of the light panel which is not covered under warranty. Due to multiple application and installation variances associated with the integration of light panels, standard mounting hardware is not provided. Be sure to discuss your project with your account manager who can help you determine an optimal mounting solution for your application and in some cases provide mounting components when required.
PACKING & CRATING INFORMATION

Due to the fact that LumiSheet Light Panels must be protected during shipping, there are distinct packing and crating protocols used. The appropriate packing method is selected based on the size of the order and the size of the Light Panels. Below is the LumiSheet Packing Guideline for how shipments are typically packed/crated. Since all shipments are different, use this as a reference (guideline) only. **Shipping charges are in addition to crating charges.**

**DO NOT TRY TO UNPACK CRATED LIGHT PANELS BY YOURSELF.** Unpacking medium to large sized shipping crates is a two person job! Get someone to assist so that Light Panels are not damaged.

**RESIDENTIAL DELIVERY ADDRESSES WILL INCUR LIFTGATE CHARGES.** Note: The liftgate charge is in addition to crating and shipping charges.

### LUMISHEET PACKING GUIDELINE

<table>
<thead>
<tr>
<th>Type of Packing</th>
<th>Wooden Crate</th>
<th>Plywood “Sandwich” Wrap</th>
<th>Custom Cardboard Packaging</th>
<th>Cardboard Tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of Panel(s)</td>
<td>24” x 24” or larger or other L+W sizes ≥ 48” (i.e. 20” x 30” or 18” x 32”)</td>
<td>Single panel only</td>
<td>6” x 6” or smaller</td>
<td>Narrow panels 5” wide x 96” long or smaller (up to 3)</td>
</tr>
<tr>
<td>Quantity</td>
<td>1-5 large panels or large quantities of small-sized items (small panels, diffusers, accessories, etc.)</td>
<td>Single panel only</td>
<td>Medium to small quantities</td>
<td>Medium to small quantities</td>
</tr>
<tr>
<td>Size of Shipped Panel (Example Only)</td>
<td>Oversize panel (larger than 4ft x 8ft)</td>
<td>Large panel (4ft x 8ft or slightly smaller)</td>
<td>Medium panel (3ft x 6ft or slightly smaller)</td>
<td>Small panel (2ft x 2ft or slightly smaller)</td>
</tr>
<tr>
<td><strong>CRATING CHARGE TIERS</strong>*</td>
<td><strong>Size</strong></td>
<td><strong>Quantity</strong></td>
<td><strong>A</strong> (25 lbs/11.3kg)</td>
<td><strong>A</strong> (115 lbs/52.2kg)</td>
</tr>
<tr>
<td>20” x 20” (50 x 50cm)</td>
<td>1</td>
<td><strong>A</strong> (25 lbs/11.3kg)</td>
<td><strong>A</strong> (115 lbs/52.2kg)</td>
<td><strong>B</strong> (180 lbs/82kg)</td>
</tr>
<tr>
<td>24” x 24” (60 x 60cm)</td>
<td>2-4</td>
<td><strong>B</strong> (150-150 lbs/68-136kg)</td>
<td><strong>B</strong> (180-300 lbs/81-163kg)</td>
<td><strong>B</strong> (195-340 lbs/88.5-154kg)</td>
</tr>
<tr>
<td>36” x 36” (90 x 90cm)</td>
<td>5-9</td>
<td><strong>B</strong> (300-500 lbs/136-227kg)</td>
<td><strong>B</strong> (340-550 lbs/154-250kg)</td>
<td><strong>B</strong> (380-530 lbs/172-240kg)</td>
</tr>
<tr>
<td>48” x 48” (120 x 120cm)</td>
<td>10-14</td>
<td><strong>B</strong> (300-500 lbs/136-227kg)</td>
<td><strong>B</strong> (340-550 lbs/154-250kg)</td>
<td><strong>B</strong> (380-530 lbs/172-240kg)</td>
</tr>
<tr>
<td>48” x 54” (120 x 145cm)</td>
<td>15-19</td>
<td><strong>C</strong> (300-500 lbs/136-227kg)</td>
<td><strong>C</strong> (340-550 lbs/154-250kg)</td>
<td><strong>C</strong> (380-530 lbs/172-240kg)</td>
</tr>
<tr>
<td>48” x 72” (120 x 180cm)</td>
<td>20+</td>
<td><strong>D</strong> (300-500 lbs/136-227kg)</td>
<td><strong>D</strong> (340-550 lbs/154-250kg)</td>
<td><strong>D</strong> (380-530 lbs/172-240kg)</td>
</tr>
</tbody>
</table>

*Shipping charges are in addition to crating charges. Since all shipments are different, use the chart above as a reference (guideline only).

**Crates longer than 96” will incur an oversize surcharge.**

### QUALITY CONTROL & SHIPMENT DOCUMENTATION

All LumiSheet Light Panels are tested during assembly and tested again before packing/crating. Each order is inspected following our standard Quality Control process. Quality Control results can be provided upon request. Photos are taken to document each shipment’s order number, contents and date of shipment. This is done to assure that the Light Panels and all accessories have been included in the shipment.
PRODUCT HANDLING, INSTALLATION & INTEGRATION ADVISORY

Evo-Lite’s experience in providing LumiSheet Light Guide Plates to its customers has provided us with a unique perspective on the characteristics and underlying intuitive knowledge necessary to complete a successful installation of LumiSheet. Evo-Lite is committed to educating and supporting all our customers so that every installation proceeds as smoothly as possible. Most installations offer their own unique challenges; we hope by making you aware of the following handling and installation guidelines that the basics of the installation do not become issues that further complicate this process. As always, your Evo-Lite Account Manager or any of our staff are ready to assist you and answer any questions you have or address any issues that arise during your installation.

Our production, packaging and shipping process is accompanied by a rigorous quality control procedure. All light panels are subjected to a burn in period and are tested during the packaging process to ensure operation of the highest quality. Due to possible unforeseen issues with shipping and handling, we advise that all light panels be inspected at time of delivery and tested for proper illumination prior to installation and again before the forward facing material is permanently installed. BE SURE TO REMOVE THE PROTECTIVE FILM BEFORE INSTALLING.

Be sure to use a low voltage power supply that conforms to the voltage requirements of the light panel. This information can be found on the label on the backside of the light panel as well as the power supply labeling. ANY DIRECT CONNECTION OF THE LIGHT PANEL TO AC CURRENT WILL DAMAGE THE LEDS.

For optimal power distribution and to minimize voltage drop, it is recommended that multi-strand, high strand count wiring be used for all low voltage DC connections. Wire gauge should be appropriate based upon system voltage and wire lengths to further minimize voltage drop. Power supplies, drivers and controls should be installed in well ventilated enclosures and or per manufacturers recommendations. It is the customer’s responsibility to ensure all components and installation practices meet or exceed local codes and requirements.

Take as many precautions as possible when handling. The light panels are made from acrylic which can be easily damaged if not handled properly. Caution should be taken when setting the light panel on edge as the force of the light panel contacting a solid surface can result in cracking or chipping of the acrylic light guide plate. Also be aware of all light panel wiring. The awareness of the weight of the light panel in most cases exceeds the awareness of the wiring which can be easily managed. Avoid stepping on or snagging hanging wires when unpacking or transporting panels. Be sure to handle the light panel as you would a piece of glass. Always transport the light panel on edge or in a vertical position. Allowing the light panel to flex or bow will result in damage of the internal LED components which is not covered under warranty.

Store Light Panels in a clean, dry area and keep covered to protect from moisture and dust. Store on a flat, horizontal surface as vertical storage can cause flexing of the light panel which can result in damaged LED components as well as introducing a memory of the curve in which it was stored. Ideal storage conditions: Temperature of 68° – 77°F, Humidity of 50%.

DO NOT CONNECTION TO AC POWER

DO NOT GET WET

DO NOT DRILL

DO NOT CUT

DO NOT USE ADHESIVES

INSTALLATION ENVIRONMENT

CLEANING

STORAGE

POWER, CONTROL & WIRING

FRAGILE

TEST BEFORE INSTALLING

DRY LOCATION ONLY. Our standard light panels are intended for indoor use. Although our light panels are rated IP65, there are many circumstances that can jeopardize the light panel’s ability to be protected from dust and/or moisture. If weather protection is required, additional measures can be taken to protect our light panels from environmental conditions. Please contact one of our Systems Integration Specialists for additional information.

Although field drilling of the light panel can be accomplished in extreme cases, it is not recommended and is highly discouraged as any damage at this stage can result in denial of any warranty claims. Our light panels can be produced to your specifications. Be sure to provide all details of size, shape, hole size and placement before ordering. In the event drilling needs to occur, please request documentation and assistance from your account manager.

Although field cutting of the light panel can be accomplished in extreme cases, it is not recommended and is highly discouraged as any damage at this stage can result in denial of any warranty claims. Our light panels can be produced to your specifications. Be sure to provide all details of size and shape before ordering. In the event cutting needs to occur, please request documentation and assistance from your account manager.

The use of adhesives of any type including double stick (VHB) tape for the bonding of materials to the light panel or bonding light panels to another surface is strongly discouraged. Direct bonding to the illuminated surface of the light panel can result in visual anomalies and bonding to the rear reflective layer for mounting purposes can cause failure of the light panel which is not covered under warranty. Due to multiple application and installation variances associated with the integration of light panels, standard mounting hardware is not provided. Be sure to discuss your project with your account manager who can help you determine an optimal mounting solution for your application and in some cases provide mounting components when required.

Due to the characteristics of the acrylic that is used for our light panels, installation environments and locations should be taken into consideration. Wide temperature shifts can cause the acrylic used as the light guide plate to expand and contract and at a different rate than the associated components. In some cases, this expansion and contraction can cause mounting, edge tape and lamination failure. It is the responsibility of the buyer to make sure these characteristics have been accounted for throughout the design and integration of the light panels.

Keep the protective film intact and in place to help protect the surface of the light panel during transport and installation. For removal of fingerprint and other extraneous substances, start by lightly blowing or wiping off dust and other particulate matter with a soft, lint-free cloth. Do not use any abrasive or wax containing cleanser. Products such as Windex will do more harm than good.
EVO-LITE, LLC
1393 S. Santa Fe Dr.  Denver, CO 80223

MAIN PHONE: 303-996-2980
TOLL FREE: 1-888-887-2980
E-MAIL: info@Evo-Lite.com
URL: www.Evo-Lite.com

TERMS & CONDITIONS
Be sure to familiarize yourself with Evo-Lite’s Terms & Conditions. By ordering from Evo-Lite, the purchaser agrees to all Terms & Conditions.

PATENTS
LumiSheet™ PATENTS
USA: 7473022
CANADA: 2,626,448
JAPAN: 4427528
CHINA: ZL 200610085027.0
TAIWAN: 312899
SINGAPORE: 141901
SOUTH AFRICA: 2008/03676
EUROPEAN UNION: 1,780,584
(Germany, UK, France, Italy, Spain, The Netherlands, Belgium, Sweden, Austria, Poland, Denmark, Greece, Ireland, Finland, Portugal, Czech Republic, Hungary, Romania, Slovakia, Bulgaria, Switzerland, Luxembourg, Slovenia, Turkey, Latvia)

V-CUTTER FOR AN LCD LIGHT GUIDE PANEL
USA: 6619175
JAPAN: 3500466
TAIWAN: 155175

A LIGHT GUIDE PANEL WITH SALANT LIGHT GUIDING PARTS
USA: US 7,018,087 B2

PIN KIT FOR V-CUTTER
KOREA: 10-0552589, 10-0557738, 10-0557741, 10-0540055, 10-0540053, 10-0772921, 10-0716543, 10-0565890, 10-0753963, 10-0643604, 10-0736656, 10-0748074, 10-0748073, 10-0762741, USA: 6792842
JAPAN: 3463060
EU: 1335817
CHINA: ZL 01818623.8
TAIWAN: 312899
SINGAPORE: 141901
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EUROPEAN UNION: 1,780,584 (Germany, UK, France, Italy, Spain, The Netherlands, Belgium, Sweden, Austria, Poland, Denmark, Greece, Ireland, Finland, Portugal, Czech Republic, Hungary, Romania, Slovakia, Bulgaria, Switzerland, Luxembourg, Slovenia, Turkey, Latvia)